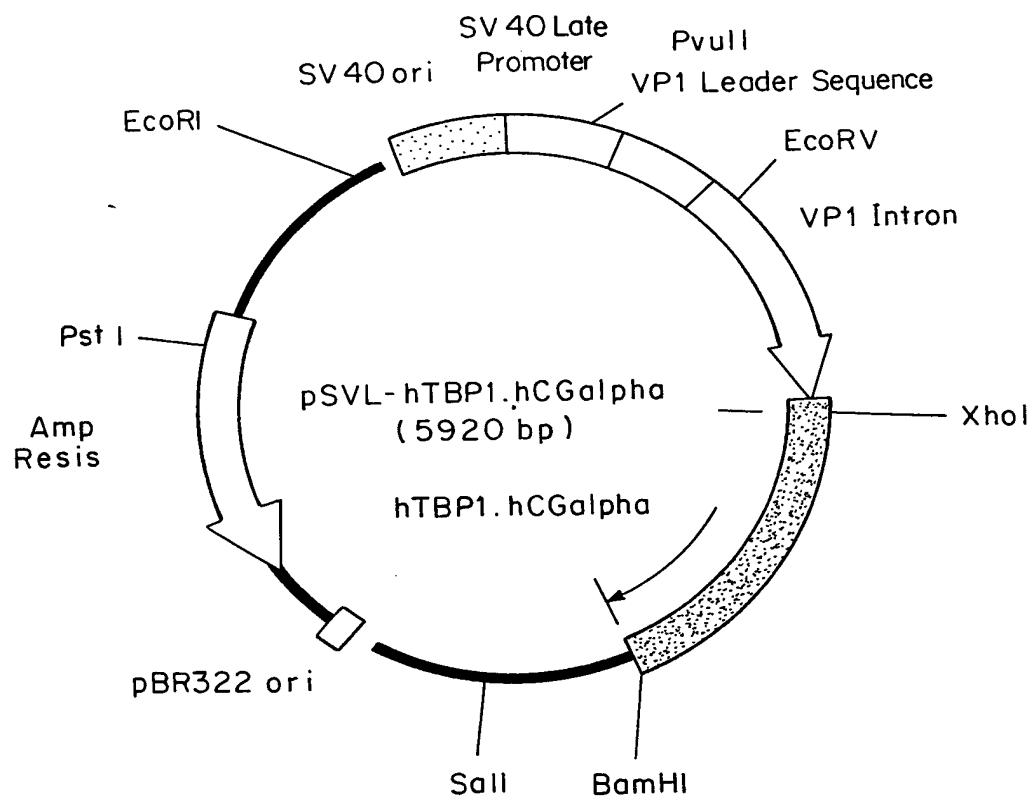
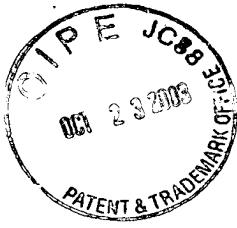


FIG. 1a(1)





F/G. 1a(2)

Xho I hGH Signal Sequence
 TCGAG ATG GCT ACA G GTAAGGCCCTAAATCCCTTGGGCACAAATGTCCTGAGGAGAGGAAACAAACAGCTCTGGAGCAGACTAACCTCAGGTGGGCTTTGCTTTC
 Met Ala Thr

hGH Intron

GAAATGGTGAATGGCCATTAGTAAAGCCCAATTCATTCAGAAGCTCCCTGGGATGGGAGAGAGAAAAACAAACAGCTCTGGAGCAGACTAACCTCAGGTGGGCTTTGCTTTC

GGGCTCCCTCTGTTGCCCCCTGGTTCTCCCCAGGC TCC CGG ACG TCC CTG CTC GCT TTT GGC CTG CTC TGC CTG CCC TGG
 ▶ Ser Arg Thr Ser Leu Leu Ala Phe Gly Leu Cys Leu Pro Trp Leu

+20 Asp of Processed TBP1

CAA GAG GGC AGT GCC GAT AGT GTG TGT CCC CAA GGA AAA TAT ATC CAC CCT CAA AAT AAT TCG ATT TGC TGT ACC AAG TGC CAC AAA AAA
 ▶ Gln Glu Gly Ser Ala Asp ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln, Asn Ser Ile Cys Cys Thr Lys Cys His Lys Gly

ACC TAC TRG TAC AAT GAC TGT CCA GGC CCG GAG GAT ACG GAC TGC AGG GAG TGT GAG AGC GGC TCC TTC ACC GCT TCA GAA AAC CAC CTC
 ▶ Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gln Asp Thr Asp Cys Arg Glu Cys Ser Gln Ser Phe Thr Ala Ser Glu Asn His Leu

AGA CAC TGC CTC AGC TGC TCC AAA TGC CGA AAG GAA ATG GGT CAG GTG GAG ATC TCT TGT ACA GTG GAC CGG GAC ACC GTG TGT GGC TGC
 ▶ Arg His Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys

AGG AAG AAC CAG TAC CGG CAT TAT TGG AGT GAA AAC CTT TTC CAG TGC TTC AAT TGC AGC CTC CTC AAT GGG ACC GTG CAC CTC TCC TGT
 ▶ Arg Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Ser Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys

CAG GAG AAA CAG AAC ACC GTG TGC ACC TGC CAT GCA GGT TTC TTT CTA AGA GAA AAC GAG TGT GTC TCC TGT GGC GGT GCT GCC CCA GGT
 ▶ Gln Glu Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ala Gly Ala Ala Pro Gly

+7 Cys of hCG alpha

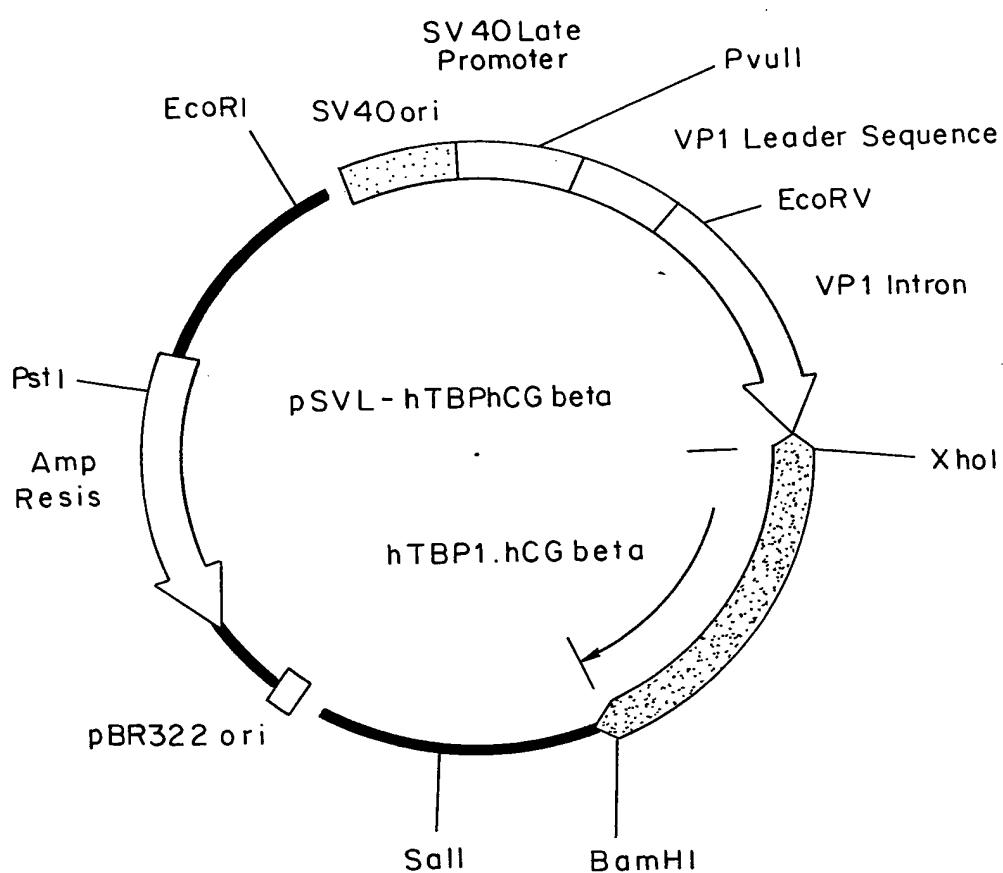
TGC CCA GAA TGC ACG CTA CAG GAA AAC CCA TTC TTC CAG CCG GGT GCC CCA ATA CTT CAG TGC ATG GGC TGC TGC TCT TCT AGA GCA TAT
 ▶ Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys Ser Arg Ala Tyr

CCC ACT CCA CTA AGG TCC AAG AAG ACG ATG TTG GTC CAA AAG AAC GTC ACT TCA GAG TCC ACT TGC TGT GTA GCT AAA TCA TAT AAC AGG GTC
 ▶ Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser Tyr Asn Arg Val

ACA GTA ATG GGG GGT TTC AAA GTG GAG AAC CAC ACG TGC CAC TGC AGT ACT TGT TAT CAC AAA TCT TAA G
 ▶ Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr Ala Cys Ser His Cys Ser Thr Cys Tyr Tyr His Lys Ser ... | Bam HI



FIG. 1b(1)



F1G. 1b(2)

hGH Signal Sequence

hGH Intron

Xhol
CTCGAG ATG GCT ACA G

► Met Ala Thr

GCTTGTGAATGTGAGTATGCCATGTAAAGCCCAAGTATTGGCCAAATCTCAGAAAGTCCTGCTGAGGGATGGAGAGAAAAACAAACAGCTCCCTGAGGGAGACTAACCCTAACGGTGG

CTCTTGCTCTCCGGCTCCCTCTGTGGCCACAATGTTGGCACAAATGTTGCTGAGGGAGAGGTAGGACCTGATAGTGGACGGGGGGACTAACCTAACGGTGG
 CCC TGG CTT CAA GAG GGC AGT GCC GAT AGT GTG TGT CCC CAA GGA AAA TAT ATC CAC CCT CAA AAT AAT TCG ATT TGC TGT ACC
 ► Pro Trp Leu Gln Glu Gly Ser Ala Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Ser Ile Cys Cys Thr
 +20 Asp of Processed TBPI
 AAG TGC CAC AAA GGA ACC TAC TTG TAC AAT GAC TGT CCA GGC CGG CAG GAT ACG GAC TGC AGG GAG TGT GAG ACC GGC TCC TTC ACC
 ► Lys Cys His Ilys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gln Asp Thr Asp Cys Arg Gln Asp Ser Gln Ser Phe Thr
 GCT TCA GAA AAC CAC CTC AGA CAC TGC CTC AGC TGC 'TCC AAA TGC CGA AAG GAA ATG GGT CAG GTG GAG ATC TCT TCT TGC ACA GTG GAC
 ► Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gln Val Glu Ile Ser Ser Cys Thr Val Asp
 CCG GAC ACC GTG TGT GGC TGC AGG AAC CAG TAC CGG CAT TAT TGG AGT GAA AAC CTT TTC CAG TGC TTC AAT TGC AGC CTC TGC CTC
 ► Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu
 AAT GGG ACC GTG CAC CTC TCC TGC CAG GAG AAA CAG AAC ACC GTG TGC AC C TGC CAT GCA GGT TCT TTT CTA AGA GAA AAT GAG TGT GTC
 ► Asn Gly Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val
 Linker
 +7 Pro of hCG beta
 TCC TGT GCT GGT CCA CGG TGC CGC CCC ATC AAT GCC ACC CTG GCT GTG GAG AAG GAG GGC TGC CCC GTG TGC ATC ACC GTC
 ► Ser Cys Ala Gly Ala Gly Pro Arg Cys Arg Pro Ile Asn Ala Thr Leu Ala Val Glu Lys Gln Gly Cys Pro Val Cys Ile Thr Val
 AAC ACC AAC ATC TGT GCC TAC TGC CCC ACC ATG ACC CGC GTG CTG CAG GGG GTC CTG CTC CCT CAG GTG GTG TGC AAC TAC
 ► Asn Thr Thr Ile Cys Ala Gly Tyr Cys Pro Thr Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val Cys Asn Tyr
 CGC GAT GTG CGC TTC GAG TCC ATC CGG CTC CCT GGC TGC CGG CGC GTG AAC CCC GTG GTC TCC TAC GCC GTG GCT CTC AGC TGT CAA
 ► Arg Asp Val Arg Phe Glu Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu Ser Cys Gln
 TGT GCA CTC TGC CGC CGC AGC ACC ACT GAC TGC GGG GGT CCC AAG GAC CAC CCC TTG ACC TGT GAT GAC CCC CGC TCC CAG GAC TCC TCT
 ► Cys Ala Leu Cys Arg Arg Ser Thr Asp Cys Gly Gly Pro Lys Asp His Pro Leu Thr Cys Asp Asp Pro Arg Phe Gln Asp Ser Ser
 TCC TCA AAG GCC CCTT CCC AGC CTT CCA AGC CCA TCC CGA CTC CCG GGG CCC TCG GAC ACC CCG ATC CTC CCA CAA TAA
 ► Ser Ser Lys Ala Pro Pro Pro Ser Leu Pro Ser Arg Leu Pro Gly Pro Ser Asp Thr Pro Ile Leu Pro Gln ***
 Bam HI





FIG. 2a(1)

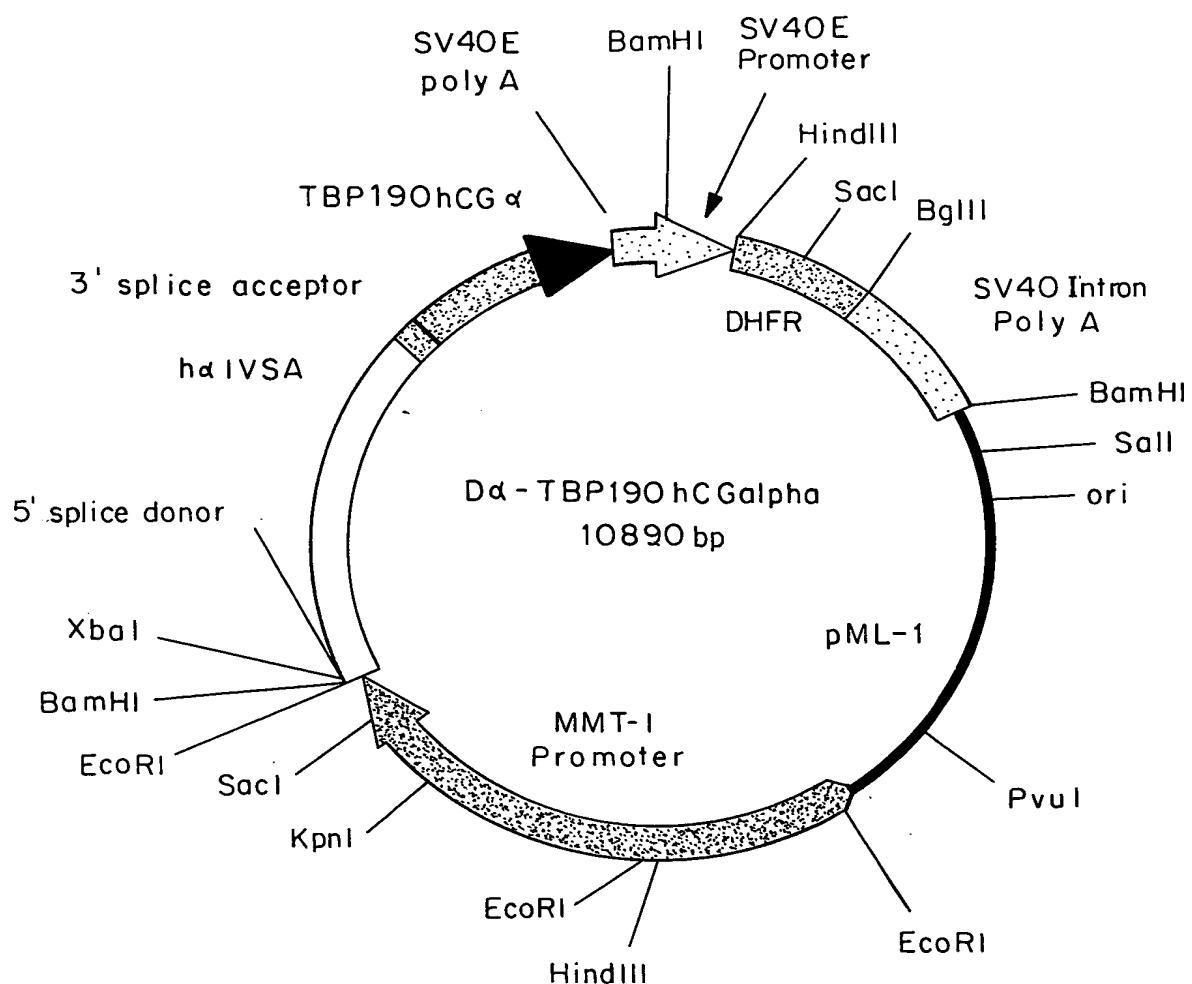


FIG. 2a(2)

XbaI hGH Signal Sequence hGH Intron
 TCGATG GCT ACA G GTAAAGGCCCTCTGGTTCTCCAGGC
 ▶ Met Ala Thr

GAATGTGAGTATGCCATGTAAGCCCAAGTATTGGCCAAATCTCAGAAAGCTCCCTGGAGGATGGAGAGAAAAACAAACAGCTCTGGAGGAGACTAACCCCTCAGGTTGGCTTC
 CGGGCTCCCTCTGGTTCTCCAGGC TCC CGG ACG TCC CTG CTC GCT TTT GGC CTG CTC TGC CTC CCC TGG CTC
 ▶ Ser Arg Thr Ser Leu Leu Ala Phe Gly Leu Leu Cys Leu Pro Trp Leu
 +20 Asp of processed TBPI

CAA GAG GGC AGT GCC GAT AGT GTG TGT CCT CAA AAA TAT ATC CAC CCT CAA AAT AAT TCG ATT TGC TGT ACC AAG TGC CAC AAA GGA
 Glu Gly Ser Ala Asp Ser Val Cys Pro Glu Gly Lys Tyr Ile His Pro Glu Asn Asn Ser Ile Cys Thr Lys Cys His Lys Gly
 ACC TAC TTG TAC AAT GAC TGT CCA GGC CCG GGG CAG GAT ACG GAC TGC AGG GAG TGT GAG AGC GGC TCC TTC ACC GCT TCA GAA AAC CAC CTC
 ▶ Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Glu Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu

AGA CAC TGC CTC AGC TGC TCC AAA TGC CGA AAG GAA ATG GGT CAG GTG GAG ATC TCT TCT TGC ACA GTG GAC CGG GAC ACC GTG TGT GGC TGC
 ▶ Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys

AGG AAC CAG TAC CGG CAT TAT TGG AGT GAA AAC CTT TTC CAG TGC TTC AAT TGC AGC CTC AAT GGG ACC GTG CAC CTC TCC TGC
 ▶ Arg Lys Asn Glu Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Glu Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys

CAG GAG AAA CAG AAC ACC GTG TGC ACC TGC CAT GCA GGT TTC TTT CTA AGA GAA AAC GAG TGT GTC TCC TGT AGT AAC TGT AAG AAA AGC CTC
 ▶ Glu Lys Glu Asn Thr Val Cys Thr Cys His Ala Gly Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Ser Leu

GAG TGC ACG AAG TTG TGC CTA CCC CAG ATT GAG AAT GTT AAG GGC ACT GAG GAC TCA GGC ACC ACA GCC GGT GCT
 ▶ Glu Cys Thr Ilys Leu Cys Leu Pro Glu Ile Glu Asn Val Lys Gly Thr Glu Asp Ser Gly Thr Thr Ala Gly Ala Ala Pro Gly Cys Pro
 Linker +7 Cys of hCG alpha

GAA TGC ACG CTA CAG GAA AAC CCA TTC TCC CAG CCG GGT GCC CCA ATA CTT CAG TGC ATG GGC TGC TGC TCC TCT AGA GCA TAT CCC ACT
 ▶ Glu Cys Thr Leu Gln Glu Asn Pro Phe Ser Glu Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Ser Arg Ala Tyr Pro Thr

CCA CTA AGG TCC AAG AAG ACG ATG TTG GTC CAA AAG AAC GTC ACC TCA GAG TCC ACT TGC TGT GTC GCT AAA TCA TAT AAC AGG GTC ACA GTA
 ▶ Pro Leu Arg Ser Lys Lys Thr Met Leu Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser Tyr Asn Arg Val Thr Val

ATG CGG GGT TTC AAA GTG GAG AAC CAC ACT GCG TGC CAC TGC AGT ACT TGT TAT TAT CAC AAA TCT TAA GGATCCCTCGAG
 ▶ Met Gly Gly Phe Lys Val Glu Asn His Thr Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser



FIG. 2b(1)

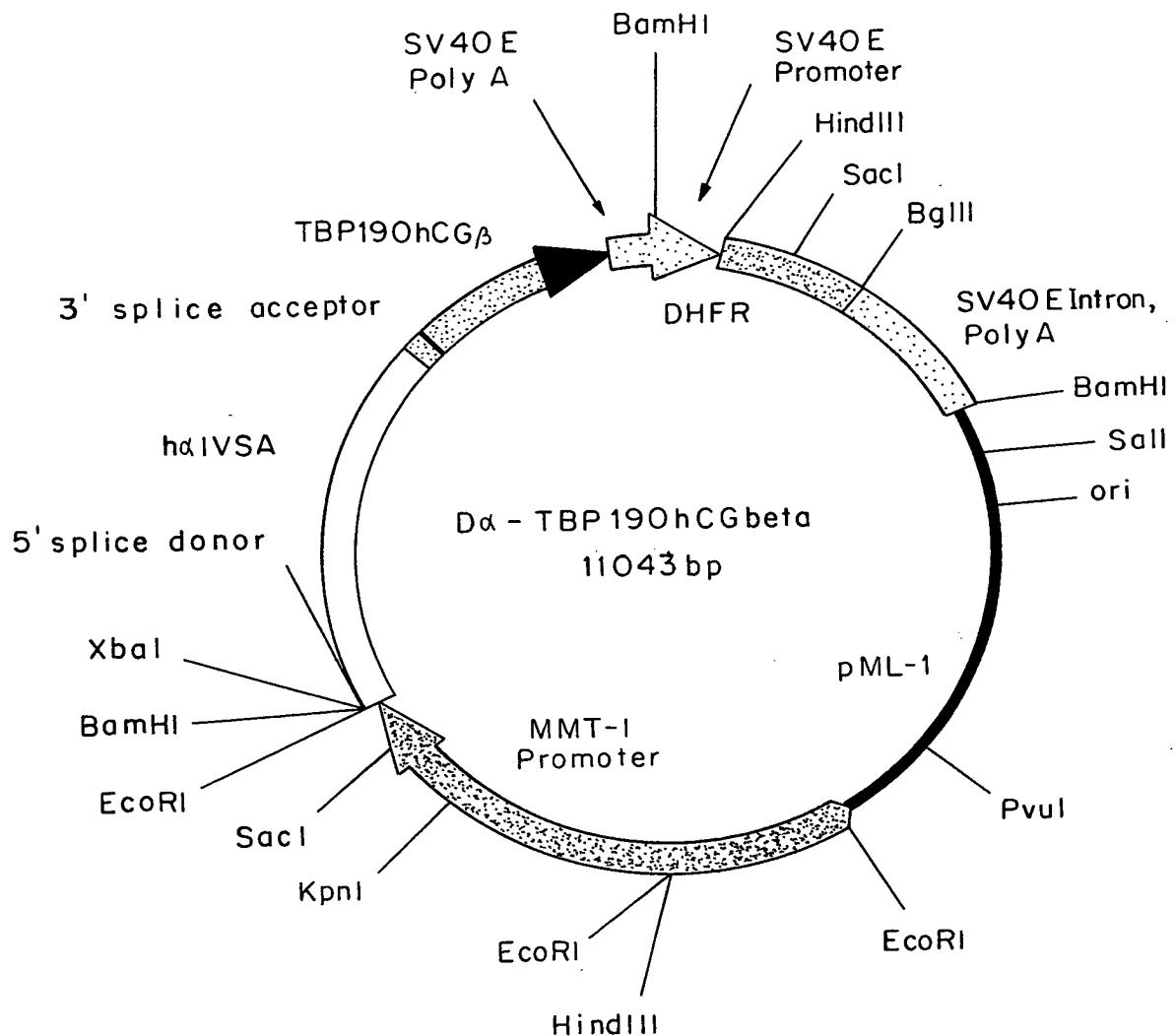


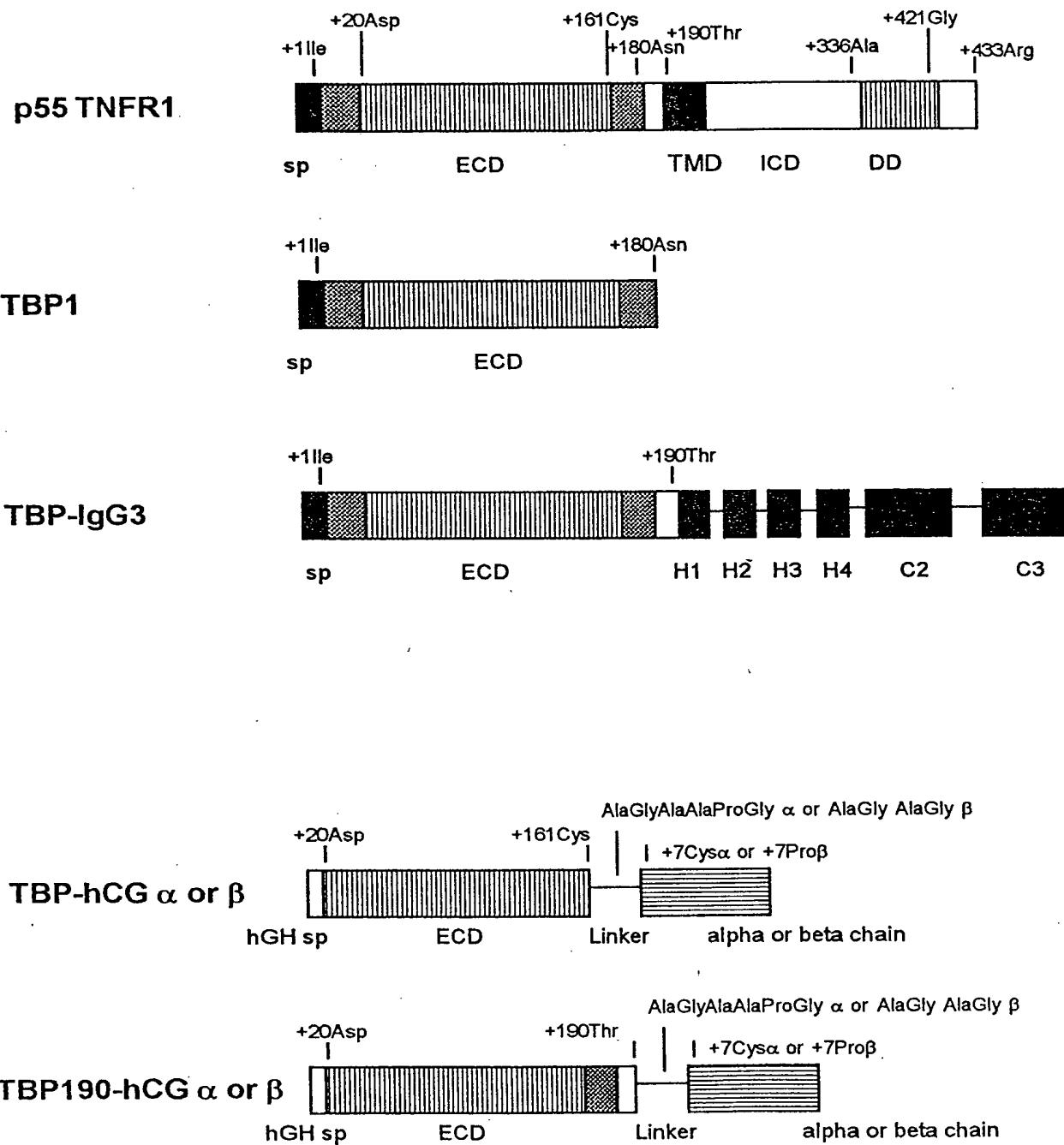
FIG. 2b(2)

Xhol hGH Signal Sequence hGH Intron
 CTCGAG ATG GCT ACA G GTAAGGCCCTTAAATCCCTTGGCACATGGTCTTGAGGGAGAAGCAGCCTGTAGATGGACGGGGGACTAACCCCTCAAGTTGGGG
 ▶ Met Ala Thr
 GCTCTCTGAATGTGAGTATGCCATGTAAAGCCAGTATTGGCCAATCTAGAAAAGCTCTGGAGGGATOGAGAGAGAACAAACGCTCCTGTAGAGGTAGAGTGCCTGGC
 CTCTGCTCCGGCTCCCTCTGTTGCCCTCTGGTTCTGCCAGG C TCC CCG ACG TCC CTC GCT TTT GGC CTC TGC CGC
 ▶ Ser Arg Thr Ser Leu Leu Ala Phe Gly Leu Ile Cys Leu
 +20 Asp of Processed TBP1
 CCC TGG CTT CAA GAG GGC AGT GCC GAT AGT GTG TGT CCC CAA GGA AAA TAT ATC CAC CCT CAA AAT ATT TCG ATT TGC TGT ACC
 ▶ Pro Trp Leu Gln Glu Gly Ser Ala Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Ser Ile Cys Cys Thr
 AAG TGC CAC AAA GGA ACC TAC TTG TAC AAT GAC TGT CCA GGC CCG GAG GAT ACG GAC TGC AGG GAG TGT GAG AGC GGC TCC TTC ACC
 ▶ Lys Cys His Lys Gly Thr Tyr Asn Asp Cys Pro Gly Pro Gln Asp Thr Asp Cys Arg Glu Ser Gly Ser Phe Thr
 GCT TCA GAA AAC CAC CTC AGA CAC TGC CTC AGC TGC TCC AAA TGC CGA AAG GAA ATG GGT CAG GTG GAG ATC TCT TCT TGC ACA GTG GAC
 ▶ Ala Ser Glu Asn His Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp
 CGG GAC ACC GTG TGT GGC TGC AGG AAC CAG TAC CGG CAT TAT TGG AGT GAA AAC CTT TTC CAG TGC TTC AAT TGC AGC CTC TGC CTC
 ▶ Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn His Tyr Arg His Tyr Val Cys Ser Leu Cys Leu
 AAT GGG ACC GTG CAC CTC TCC TGC CAG GAG AAA CAG AAC ACC GTG TGC ACC TGC CAT GCA GGT TTC TTT CTA AGA GAA AAC GAG TGT GTC
 ▶ Asn Gly Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Leu Arg Glu Asn Glu Cys Val
 TCC TGT AGT AAC TGT AAG AAA AGC CTG GAG ACG AAG TTG TGC CAA CCC CAG ATT GAG AAT GTT AAG GGC ACT GAG GAC TCA GGC ACC
 ▶ Ser Cys Ser Asn Cys Lys Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys Glu Asp Ser Gly Thr
 Linker +7 Pro of beta
 ACA GCT GGT GCT GGT CCA CGG TGC CGC CCC ATC AT GGC ACC CTG GCT GTG GAG AAG GAG GGC TGC CCC GTG TGC ATC ACC GTC AAC
 ▶ Thr Ala Gly Ala Gly Pro Arg Cys Arg Pro Ile Asn Ala Thr Leu Ala Val Glu Lys Glu Gly Cys Pro Val Cys Ile Thr Val Asn
 ACC ACC ATC TGT GCC GG TAC TGC CCC ACC ATG ACC CGC GTG CTG CAG GGG GTC CTG CGC CCT CAG GTG GTG TGC AAC TAC TAC CGC
 ▶ Thr Thr Ile Cys Ala Gly Tyr Cys Pro Thr Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gin Val Val Cys Asn Tyr Arg
 GAT GTG CGC TTC GAG TCC ATC CGG CTC CCT GGC TGC CGC GGC GTG AAC CCC GTG GCT CTC AGC TGT CAA TGT
 ▶ Asp Val Arg Phe Glu Ser Ile Arg Leu Pro Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu Ser Cys Gln Cys
 GCA CTC TGC CGC CGC AGC ACC ACT GAC TGC GGG GGT CCC AAG GAC CAC CCC TTG ACC TGT GAT GAC CCC CGC TTC CAG GAC TCC TCT TCC
 ▶ Ala Leu Cys Arg Arg Ser Thr Asp Cys Gly Lys Pro Lys Asp His Pro Leu Thr Cys Asp Asp Pro Arg Phe Gln Asp Ser Ser Ser
 TCA AAG GCC CCT CCC AGC CTT CCA AGC CCA TCC CGA CTC CGG CCC TCG GAC ACC CGG ATC CTC CCA CAA TAA GGATCCCTCGAG
 ▶ Ser Lys Ala Pro Pro Ser Leu Pro Ser Arg Leu Pro Ser Asp Thr Pro Ile Leu Pro Gln *** BamHI Xhol



FIG. 3

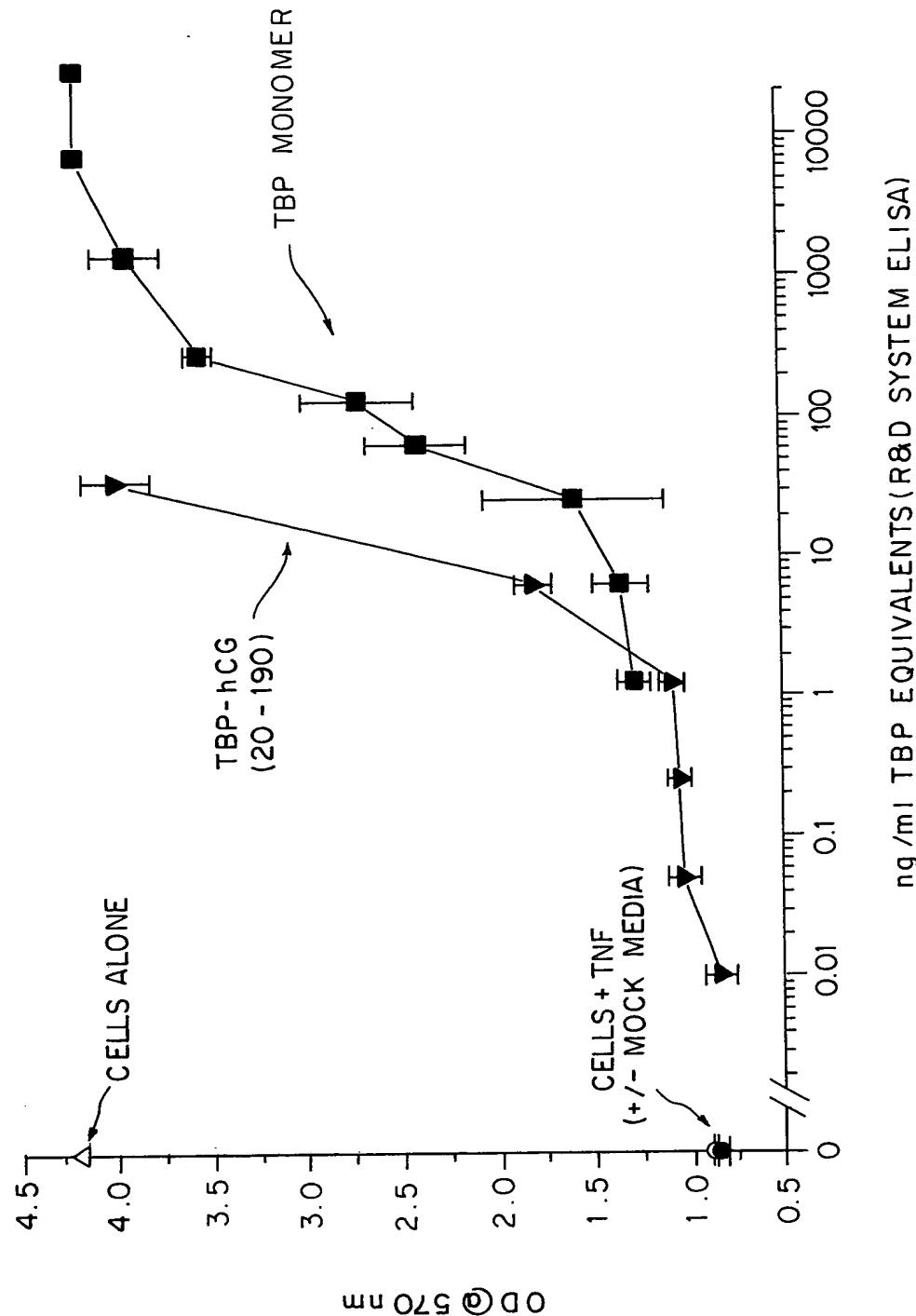
p55 TNFR1, TBP1 and TBP1 FUSION CONSTRUCTS





■ CELLS ALONE
 △ CELLS + 2.5ng/ml TNF α + TBP MONOMER
 ○ CELLS + 2.5ng/ml TNF α (NO TBP)
 ▶ CELLS + TBP-hCG(20-190) COST MED + 2.5ng/ml TNF α
 ● CELLS + COST MOCK TRANSFECTANT MEDIA+2.5ng/ml TNF α

F/G. 4



ng/ml TBP EQUIVALENTS (R&D SYSTEM ELISA)



FIG. 5

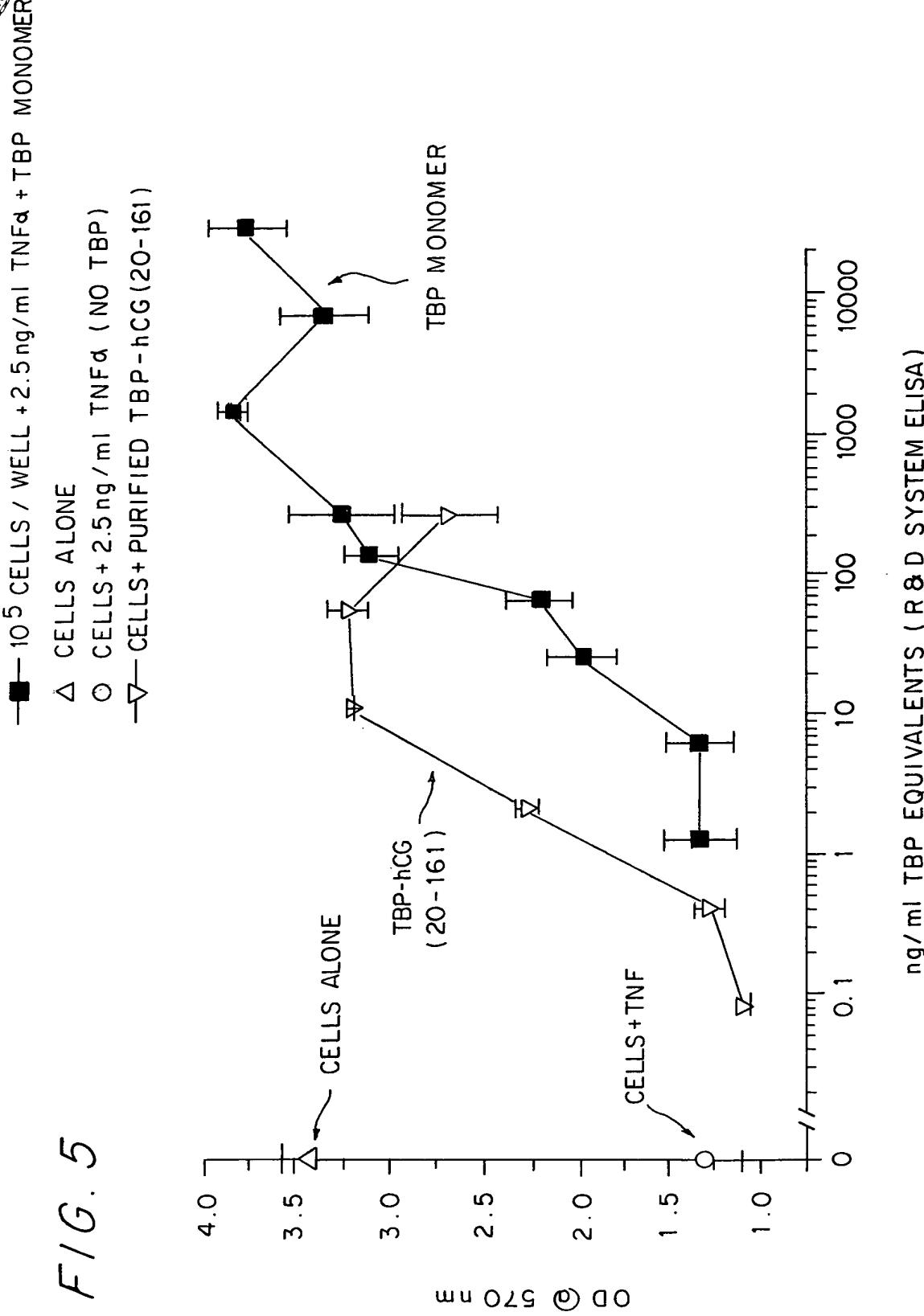




FIG. 6

